

WHAT IS CLAIMED IS:

1. A driving voltage generator circuit for a liquid crystal display comprising:

a booster for boosting a voltage according to a first applied clock signal and outputting the boosted voltage;

a common voltage generator for generating a common voltage based on the boosted voltage according to a second applied clock signal; and

a gate voltage generator for generating gate voltages including a gate-on voltage and a gate-off voltage based on the boosted voltage according to the second clock signal

wherein the first clock signal is synchronized with the common voltage.

2. A driving voltage generator circuit of claim 1, wherein the first and second clock signals are synchronized with a horizontal synchronization signal from an external device.

3. A liquid crystal display comprising:

a liquid crystal panel including a plurality of gate lines extending in a row direction, a plurality of data lines extending in a column direction, and a plurality of pixels including switching elements connected to the gate lines and the data lines on areas defined by intersections of the gate lines and the data lines, liquid crystal capacitors connected between outputs of the switching elements and a common voltage, and storage capacitors connected between the outputs of the switching elements and previous gate lines;

a gate driver for supplying gate voltages for driving the switching elements to the gate lines;

a data driver for supplying gray voltages corresponding to applied data signals to the data lines; and

a driving voltage generator for boosting a voltage according to a booster clock signal and for generating the gate voltages and the common voltage based on the boosted voltage,

wherein the booster clock signal is synchronized with the common voltage.

4. The liquid crystal display of claim 3, further comprising a timing controller including: a first clock generator for generating a first clock signal by

frequency division of a voltage from an external device; and a second clock generator for generating a second clock signal synchronized with a horizontal synchronization signal from an external device.

5 5. The liquid crystal display of claim 4, wherein the driving voltage generator comprises:

 a selector for selecting one from the first clock signal and the second clock signal and outputting the selected signal as the booster clock signal;

 a booster for boosting a voltage according to the booster clock signal and outputting the boosted voltage;

10 a common voltage generator for generating the common voltage based on the boosted voltage according to the second clock signal; and

 a gate voltage generator for generating the gate voltages including a gate-on voltage and a gate-off voltage based on the boosted voltage according to the second clock signal.

15 6. The liquid crystal display of claim 5, wherein the selector selects the second clock signal as the booster clock signal.

 7. The liquid crystal display of claim 5, wherein the driving voltage generator further comprises a data driving voltage generator for generating a data driving voltage for generating the gray voltages based on the boosted voltage.

20 8. The liquid crystal display of claim 3, further comprising a timing controller including: a first clock generator for generating a first clock signal synchronized with a horizontal synchronization signal from an external device; and a second clock generator for generating a first clock signal synchronized with the horizontal synchronization signal from an external device.

25 9. The liquid crystal display of claim 8, wherein the driving voltage generator comprises:

 a booster for boosting a voltage according to the first clock signal and outputting the boosted voltage;

 a common voltage generator for generating the common voltage based on the
30 boosted voltage according to the second clock signal; and

a gate voltage generator for generating the gate voltages including a gate-on voltage and a gate-off voltage based on the boosted voltage according to the second clock signal.

10. The liquid crystal display of claim 9, wherein the driving voltage
5 generator further comprises a data driving voltage generator for generating a data driving voltage for generating the gray voltages based on the boosted voltage.

11. The liquid crystal display of claim 3, wherein the common voltage swings in a predetermined period.

12. The liquid crystal display of claim 3, wherein the driving voltage
10 generator boosts voltage using charge pumping based on the applied booster clock signal.